Section 1: Product Identification

Product Type: Paving Sand  
Product Name: Pavermate Z3™ Polymeric Sand  
Product Form: Solid/Powder  
Intended Use of Product: Joint sand for use between pavers

Section 2: Hazard Identification

The most immediate and likely hazards are irritation from dust in the eye. When the product is mixed with water, it may form an alkaline solution, which can cause skin irritation. Dust from the product is irritating to breathe. Prolonged overexposure to dust from the product is harmful to breathe, because it will contain crystalline silica.

Applicable hazard statement based on respirable crystalline silica content

\[ \text{Danger.} \]  
May cause cancer from inhaling dust.  
Causes damage to respiratory system (silicosis) through prolonged or repeated exposure to inhaled dust.  
May cause damage to renal and immune system through prolonged or repeated exposure.

Applicable hazard statement based on and oxides content

\[ \text{Danger.} \]  
Causes serious eye damage  
Causes skin irritation  
May cause an allergic skin reaction  
May cause respiratory irritation
This product has been evaluated according to GHS and 29CFR1910.1200, Appendix A. Because of the potential respirable crystalline silica content, it is categorized as a Health Hazard Carcinogen Category 1A. Health Hazard Specific target organ toxicity, repeated exposure – Category 1 (lungs), Category 2 (immune system, kidney).

Because of the calcium oxide content, it is categorized as a Health Hazard:
- Serious eye damage/eye irritation - Category 1
- Skin irritation – Category 2
- Skin sensitizer, hazard category 1
- Specific target organ toxicity, single exposure, hazard category 3 (irritation)

Applicable Precautionary Statements:
Based on crystalline silica content
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dusts
Do not eat, drink or smoke when using this product.
Wear eye protection
If exposed or concerned, or if you feel unwell: Get medical advice.
Store locked up.
Dispose of contents in accord with local regulations

Based on oxides content:
Avoid breathing dust.
Wear skin and eye protection (water resistant protective gloves. Goggles recommended to prevent any dust in eyes).
If on skin, wash with plenty of water. Wash any exposed skin thoroughly after handling material
Take off contaminated clothing and wash it before reuse. Contaminated work clothing must not be allowed out of the workplace.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: wash with plenty of water.
If skin irritation or rash occurs, get medical attention.
Immediately call a doctor if any eye irritation or discomfort develops

HMIS® Rating: Health: 1* Fire: 0 Reactivity: 0
Section 3: Hazardous Ingredients/Composition

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Typical Percentage*</th>
<th>CAS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal slag</td>
<td>0-96%</td>
<td>68476-96-0</td>
</tr>
<tr>
<td>Coal slag consists of:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amorphous silica</td>
<td>20-48%</td>
<td>7631-86-9</td>
</tr>
<tr>
<td>Iron oxide</td>
<td>8-21%</td>
<td>1309-37-1</td>
</tr>
<tr>
<td>Aluminum oxide</td>
<td>8-21%</td>
<td>1344-27-1</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>2-7%</td>
<td>1305-78-8</td>
</tr>
<tr>
<td>Potassium oxide</td>
<td>0.596-2%</td>
<td>12136-45-7</td>
</tr>
<tr>
<td>Silica sand (as quartz)</td>
<td>0-96%</td>
<td>14808-60-7</td>
</tr>
<tr>
<td>Calcium Oxide</td>
<td>0-5%</td>
<td>1305-78-8</td>
</tr>
<tr>
<td>Calcium Hydroxide</td>
<td>0-5%</td>
<td>1305-62-0</td>
</tr>
<tr>
<td>Nonhazardous polymeric dust</td>
<td>1.5-5%</td>
<td></td>
</tr>
</tbody>
</table>

*Percentages are in final product. Specific chemical identities and concentrations withheld as trade secret. They are available upon request to health professionals, employees and their designated representatives in accord with 29CFR1910.1200(i).

Section 4: First Aid Measures

Inhalation:
If irritation develops, get to fresh air.

Eye contact:
Immediately rinse eyes: hold eyelids apart and flush eyes with plenty of water. At least fifteen minutes of flushing is recommended. Get prompt medical attention for any discomfort or irritation.

Skin Contact:
Promptly wash off with plenty of soap and water. Get medical attention for any burns or persistent rashes.

Ingestion:
Check with the Poison Control Center or a doctor. Do not induce vomiting unless directed to do so by medical personnel.

Symptoms of overexposure:
Inhalation: Breathing the dust may cause coughing, wheezing, sore throat. Repeated exposure to the dust can cause a runny nose, chronic coughing and impaired lung function. Long term exposure to respirable crystalline silica in the dust can cause silicosis (lung scarring) and lung cancer.
Eye contact: eye irritation from the mechanical effect. Eye irritation, burning from calcium oxide. These react with moisture to form a very alkaline solution, which can severely irritate or burn eyes.

Skin Contact: Can cause skin irritation. Because calcium oxide reacts with moisture exothermically to form an alkaline solution, contact with damp skin can cause irritation or burns, which may not be felt immediately. Severe burns of the feet have resulted from calcium oxide getting into footwear. Some people may develop an allergic dermatitis from calcium oxides.

Note to physician: Treat according to symptoms. No known specific antidote.

Section 5: Fire Fighting Measures

Fire extinguishing media: Appropriate for surrounding materials. Product is not flammable.

Special fire fighting procedures: none

Unusual fire and explosion hazards: None

Hazardous combustion products: None expected.

Section 6: Accidental Release Measures

Contain and clean up. Avoid creating dust. Do not wash down drains or allow product to enter sewers.

Section 7: Handling and Storage

Avoid breathing dust.
Wash hands after use.
Do not eat, drink, or use tobacco products when handling any chemical products.

Section 8: Exposure Controls/Personal Protection

Occupational Exposure Limits:

<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL</th>
<th>OSHA 1989 PEL*</th>
<th>ACGIH TLV</th>
<th>NIOSH REL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amorphous silica</td>
<td>80 mg/m³ (%silica)</td>
<td>6 mg/m³</td>
<td>None established</td>
<td>6 mg/m³</td>
</tr>
<tr>
<td>Iron oxide</td>
<td>10 mg/m³ (as fume)</td>
<td>10 mg/m³</td>
<td>5 mg/m³ (respirable)</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Aluminum oxide</td>
<td>15 mg/m³ (as aluminum)</td>
<td>15 mg/m³ (as aluminum)</td>
<td>1 mg/m³ (respirable)</td>
<td>10 mg/m³</td>
</tr>
</tbody>
</table>
Calcium oxide | 5 mg/m³ | 5 mg/m³ | 2 mg/m³ | 2 mg/m³
---|---|---|---|---
Potassium oxide | None established | None established | None established | None established
Silica sand (as quartz)** | 10 mg/m³ (%silica+2) | 0.1 mg/m³ (respirable) | 0.025 mg/m³ (respirable) | 0.05 mg/m³
Polymeric dust | 15 mg/m³ (total) 5 mg/m³ (respirable) | 15 mg/m³ (total) 5 mg/m³ (respirable) | 10 mg/m³ (total) 3 mg/m³ (respirable) | None established

*For states that adopted the 1989 PEL revisions (Minnesota, Oregon, Washington, California)
**The federal PEL for respirable crystalline silica will be 0.05 mg/m³ as of June 2017 for construction work and June 2018 for general industry.

**Engineering Controls:**
Avoid creating dust.
Local exhaust ventilation is usually not required.

**Personal protective equipment**
**Respiratory protection:** Usually not required when working with product, but take measures to minimize dust exposure.
For protection against irritation from dust or up to ten times the recommended exposure limits, use a NIOSH-approved N-95 filtering facepiece or a half mask respirator equipped with N-95 filters. A more protective respirator (e.g., P100 filters or full face respirator) may be substituted.
**Skin protection:** Avoid any skin contact, particularly when skin may be wet from sweat. Wear any water-impermeable gloves such as PVC gloves, particularly for prolonged contact. Promptly wash off of skin and remove contaminated clothing.
**Eye protection:** Safety glasses with side shields. If used in dusty or windy conditions, goggles are recommended.

**Section 9: Physical and Chemical Properties**

**Appearance and odor:** beige or black powder (sand appearance). No significant odor.
**Flash point:** noncombustible.
**Flammable limits:** N/A
Boiling Point: >2700°F
Melting point: >2700°F
Specific Gravity: 2.6 to 3.15
Solubility in water: slight
pH: Unknown. pH of oxides in water: 11-13
Evaporation Rate: not applicable. Product does not evaporate.
Evaporation rate (butyl acetate = 1): not applicable

Section 10: Stability and Reactivity

Stability: stable
Conditions to avoid: none known.
Incompatibility: Avoid strong oxidizers, strong acids
Hazardous polymerization: will not occur
Hazardous decomposition products: Silica will dissolve in hydrofluoric acid and produce a corrosive gas - silicon tetrafluoride.

Section 11: Toxicological Information

Not considered acutely toxic.

Can damage the eyes, skin and respiratory system.

Calcium oxide are caustic and abrasive to the skin. In contact with water or moisture, they can form alkaline hydroxides, which can cause burns that may not be felt immediately.

Respirable crystalline silica is categorized as a Health Hazard Carcinogen Category 1A (known to have carcinogenic potential for humans) and a Health Hazard Specific Target Organ Toxicity – Repeated Exposure Category 1. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs, and can cause chronic obstructive lung disease (bronchitis, emphysema). There is evidence that exposure to respirable silica or the disease silicosis is associated with an increased incidence of autoimmune and kidney disorders. Silica-exposed workers with latent tuberculosis are more likely to develop active tuberculosis.

Crystalline silica is listed as carcinogenic according to IARC. ACGIH classified crystalline silica as a suspected human carcinogen.

Calcium oxide are categorized as Health Hazard Serious Eye Damage/Eye Irritation Category 1 and Serious Skin Category 2, because they form a strong alkaline solution in water.
Section 12: Ecological Information

Product as a whole has not been tested but is expected to have low acute toxicity. **Ecotoxicity:** Not considered hazardous to the aquatic environment or to the ozone layer. **Persistence and degradability:** Not likely to biodegrade

**Mobility in soil:** no information available.

**Bioaccumulation:** based on ingredients, not likely to bioaccumulate

Section 13: Disposal Considerations

Do not sewer or dump on the ground
As provided, not a RCRA-regulated waste.
Dispose of in accordance with federal, state, and local regulations.

Section 14: Transportation

Not a DOT-regulated hazardous material. Not classified as dangerous goods for DOT, IATA, IMDG, TDG

Section 15: Regulatory Information

This product contains 0.1% or more of crystalline silica, regulated under California Proposition 65 as a chemical known to the state of California to cause cancer or reproductive effects. It is on the New Jersey Right to Know Hazardous Substance List.

This product does not contain any chemicals included in the SARA 302/311/312/313 List of Lists. It does not contain any Hazardous Air Pollutants.

**SARA 311/312:**
Classification: Immediate (acute) health hazard
Delayed (chronic) health hazard.

**SARA 313:** no constituents listed.
NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products. Before using any product, read its label and safety data sheet.